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CHOICE, CHANCE, AND UNINTENDED CONSEQUENCES IN STRATEGIC CHANGE: A PROCESS UNDERSTANDING OF THE RISE AND FALL OF NORTHCO AUTOMOTIVE

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Strategic change is frequently viewed as emanating from the purposeful choices of organizational actors intent on achieving a prespecified goal against a backdrop of existing environmental forces. Conversely, population ecology advocates maintain that change is a consequence of species populations being subjected to environmental selection. Either way, change is deemed epiphenomenal to social entities (i.e., actors, organizations, environments, etc.); change processes involve the doings *off/to* things. This reflects an “owned” view of change processes. We present a detailed empirical study of an automotive company’s efforts to adapt to “relentless” change. We argue that an “unowned” view of process that elevates chance, environmental uncertainty, and the unintended consequences of choice in accounting for strategic change is a more processual way of understanding the eventual demise of NorthCo Automotive.

While Napoleon thought he was in control of events, the Russian general Kutuzov knew that neither of them were, and so made fewer mistakes.

—Tolstoy (1869/1993, *War and Peace*)

A distinctive feature of much of current theorizing about processes of strategic change is the central role assigned to human agency, choice, and deliberate intention in explaining the conduct of organizations and management (Child, 1972, 1997; Peng, 2003; Whittington, 1988). Successful outcomes are celebrated and causally linked to the timely and decisive interventions of identifiable individuals in crucially shaping the course of events and in bringing about a desired state of affairs (Burgelman & Grove, 2007; Child & Smith, 1987; Denis, Lamothe, & Langley, 2001; Pettigrew, 1987, 1992; Siggelkow, 2001, 2002; Van de Ven, 1992). Conversely, failure is attributed to a lack of foresight and effective action on the part of incumbent leaders (Barnett & Burgelman, 1996; Christenson & Bower, 1996; Finkelstein, 2003; Wiesenfeld,

Wurthmann, & Hambrick, 2008). In this way, agency is assigned a privileged, heroic status; it is the deliberate doings of individuals that determine the success and/or failure of organizations. This tendency to overvalorize agency is linked to a widespread propensity to make sense of the world of business practice *ex post facto* in terms of a *representationalist epistemology* (Chia, 1996; Rorty, 1980) whereby both the origin of a cause and its effect are assumed to be straightforwardly locatable and assignable in space and time (cf. Whitehead, 1926/1985: 61–65). As a consequence, the messy, equivocal, and mutually causal nature of organizational situations is systematically reduced to key decisions, actions, events, and states that provide convenient conceptual “resting points” for theoretical causal explanations. One major consequence of this analytical predisposition is that social entities (i.e., actors, organizations, environments) are ontologically privileged over amorphous, disparate, and impersonal processes. Methodological individualism, which attributes outcomes (successful or otherwise) to the deliberate intentions, conscious choices, and purposeful actions of individuals, prevails (Chia & Holt, 2009; Chia & MacKay, 2007; Ingold, 2000).

A converse of this overemphasis on agency and strategic choice is the environmental determinism postulated by population ecology models in organization theory that emphasize the primacy of natural selection in determining organizational survival and growth. Here it is assumed that the fortunes of

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organizations are based on the fit or otherwise between certain identifiable attributes of a firm and preexisting environmental forces. Such perspectives do not deny that managers can exercise choices over their organizations' futures but do suggest that, when managers confront change imposed by exogenous processes in ambiguous and uncertain environments, agency and choice are constrained to the point at which all they can do is to either learn and adapt passively to their external environment in a bid to survive, or suffer the consequences of natural selection (e.g., Aldrich, 1979; 2000; Aldrich, Hodgson, Hull, Knudsen, Mokyr, & Vanberg, 2008; Baum & Singh, 1994; Baum & McKelvey, 1999; Baum & Rao, 2004; Betton & Dess, 1985; Hannan & Freeman, 1977, 1984, 1989; Hannan, Pólos, & Carroll, 2003a, 2003b; Levinthal, 1991, 1997; Levinthal & March, 1993; March, 1991; McKelvey & Aldrich, 1983; Péli, 2008; Siggelkow & Levinthal, 2003).

Although some scholars do point out that processes of change often reflect aspects of both managerial choice (in the form of adaptation) and environmental determinism (in the form of population-level selection), with discordance between positions primarily pertaining to which has primacy in driving change (Astley & Van de Ven, 1983; Hrebiniak & Joyce, 1985; Van de Ven & Poole, 1995), we argue that both these approaches presuppose the causal efficacy of social entities (i.e., organizational actors, external environment, etc.) in determining outcomes. There is little room for theorizing the unexpected effects of organizational-environmental interactions and the unintended consequences of deliberate choices that inadvertently contribute to shaping future organizational circumstances. Both approaches discount the fact that the in situ responses of agents themselves, rather than preexisting external environmental conditions, can generate unanticipated consequences that eventually end up facilitating or thwarting organizational aspirations. Such unanticipated consequences are a direct result of what Merton called the "imperious immediacy of interest" (1936: 901), by which he meant that choices made in dealing with perceived immediate concerns can create longer-term ramifications. So, unintended outcomes and states of affairs may arise, not from sheer environmental forces, but from the interaction of deliberate choices made by organizational actors with chance environmental circumstances. It was thus the organization's very act of choosing a particular course of action that generated the unintended consequences it subsequently faced.

Such a modest view of human agency challenges people's sense of invulnerability and questions the potency of organizational actors in their ability to control their own destinies. On the other hand, the population ecology perspective, as we have intimated, largely discounts the capacity for human ingenuity in creatively fashioning responses and reconfiguring priorities to perceived environmental pressures. Conceptualizing human agency as creatively adaptive, though not always successfully so, because of the possibility of unintended consequences arising from deliberate choices, is patently consistent with a processual view of reality. From this moderated worldview, organizational life is better characterized, not by deterministic natural selection, nor by strategic choice, but by an interactive process of *creative evolution* (Bergson, 1911/1998); choice, chance, and environmental circumstances interact to produce both positive and negative unintended consequences that influence organizational outcomes in the most unexpected of ways. This moderating of strategic choice and environmental selection is central to a newfound appreciation of the primacy of process in organizational theorizing.

In this article, we present a five-year longitudinal study of the top management team (TMT) at NorthCo Automotive (a pseudonym), a Canadian automotive company, amidst significant and unexpected global changes as they unfolded over time. The initial premise of the study was that managers are able to shape their organizational destinies by taking purposeful action to adapt to, or even enact, changing environmental circumstances. The focus of the study itself began to shift as the novelty inherent in processes of emergence overwhelmed iterations of NorthCo's strategic plan throughout the five-year duration of the study. We found that repeated attempts by the TMT to keep pace with punishing change resulted in the unintended consequence of taking decisions that, although eminently efficacious in resolving the immediate problems faced, nevertheless sowed the seeds for their own eventual demise. The firm eventually succumbed to "black swans" (Taleb, 2007)—unexpected happenings that have disproportionate repercussions over time—after having successfully traded for four decades in a highly competitive environment. This event led us to attempt to analyze our data using concepts of adaptation (e.g., Barnett, 1997; Levinthal, 1991, 1997; Levinthal & Posen, 2007; March, 1991) and selection (e.g., Aldrich, 1979, 2000; Baum & Singh, 1994; Hannan & Freeman, 1977, 1984; McKelvey & Aldrich, 1983). Such perspectives gave some limited insight into some of the reasons for the failure of the or-

ganization being studied, but their focus on environmental properties and stable organizational traits couldn't account fully for the rich particularities, the twists and turns of the evolving organizational situation that we were documenting. Such explanations from adaptation (e.g., learning models, routines, search strategies) and selection (e.g., age, size, niche, performance, resource dependence, structural inertia) "seem to us insufficient" (Bergson, 1911/1998: 55) because environmental circumstances are "not a (static) mould into which life is inserted" (Bergson, 1911/1998: 58). They do not take into account the possibility of the organism/organization autopoietically fashioning a *reply* instead of merely taking *adaptive* actions (Maturana & Varela, 1980). We came to the conclusion that to understand the eventual failure of NorthCo, a radical reversal of the ontological priorities underpinning process theories of change in organization and management was required; one that acknowledges the reality of "unowned" change processes in which social entities are "constituted out of the flow of process and substantiality is subordinated to activity" (Rescher, 1996: 42–43; also see Bergson, 1911/1998, 1946/1992; James, 1911/1996; Mead, 2002; Whitehead, 1926/1985).

Our argument is that too much of what simply happens in process studies of strategic change is credited either to the deliberate actions and intentions of managerial agents or to the causal influence of external environmental pressures. Our objective is to demonstrate that *intended actions interacting with chance environmental circumstances can result in changes that produce unintended consequences that, in turn, can be decisive in shaping the fortunes of an organization*. This possibility is hardly ever acknowledged in retrospective explanations of strategic change. Our contributions are (a) advancing a philosophically informed perspective on process studies of strategic change in organization; (b) moderating explanations that give primacy to either managerial choice or environmental determinism by elevating the interactive role of choice, chance, change, and unintended consequences in shaping strategic outcomes; and, (c) reframing the debate between managerial choice and environmental determinism in terms that reflect a processual orientation as distinct from variance approaches that emphasize covariations between dependent and independent variables.

We begin by arguing that process studies of change in organization and management can benefit immeasurably by recognizing a vital distinction made by process philosophers between "owned" and "unowned" processes. "Owned" process per-

spectives emphasize essential stabilities and give precedence to things as causal agents in their analytical explananda. Events are attributed to identifiable choices made and/or environmental imperatives, and tight, linear, cause-effect relationships are presumed. Chance, nonlinearity, and the unintended consequences of actions (that is, consequences not intended by managers coping with a chaotic and messy reality) are subjugated. Yet rarely do strategic change processes, we argue, flow in straight lines. An "unowned" perspective accepts many of the insights of both strategic choice and population ecology perspectives but reverses their ontological priorities and reorients attention toward the destabilizing dynamic interactions among rapidly emerging, frequently unintentional, and often surprising multicausal process complexes. Following a note on our research methods, we illustrate our case through an "unowned" processual analysis of the unfolding situation faced by NorthCo Automotive that shows how unexpected chance events and unintended consequences of purposeful choices and actions conspired to overwhelm it, forcing it eventually into liquidation. We then outline our conclusions and implications for understanding strategic change and give some suggestions for further research in the process tradition.

THEORETICAL DEVELOPMENT

An "Unowned" View of Processes of Strategic Change

There is a growing awareness that theories of strategic change need to include more attention to process as a nonlinear, continuous phenomenon characterized by chaotic dynamics (Brown & Eisenhardt, 1997; Denis et al., 2001; Eisenhardt, 2000; Garud & Van de Ven, 2002; Pettigrew, Woodman, & Cameron, 2001; Tsoukas, 2005, 2010). Eisenhardt (2000), for instance, observed that theories of "punctuated equilibrium" (e.g., Romanelli & Tushman, 1994; Tushman & Romanelli, 1985) that conceptualize change in terms of the transition between one frozen state to another, and linear evolutionary models of variation-selection-retention (e.g., Aldrich, 1979: 2000; Hannan & Freeman, 1979, 1984), are less valid in a constantly fluxing world. Scholars have argued that when processes of continuous change and emergence are not accounted for, such concepts become unproductive in nonlinear settings (Meyer, Gaba, & Colwell, 2005: 457). Despite such heightened appreciation of the importance of theorizing continuous change, it is still construed as either something that hap-

pens to otherwise stable social entities such as organizations or as something controlled by organizational actors and/or environments. This owned perspective on process leads to the privileging of agency, choice, and/or environmental forces over chance, happenstance, and unintended consequences. Because of this owned process orientation, ambiguities remain about how strategic choices interact with environmental pressures and chance circumstances to shape the emergence and development of an organizational situation. This is particularly the case when the interaction of processes results in complexes of unstable nonlinear dynamics rather than the relative stability often presupposed in traditional research (Garud & Van de Ven, 2002). It is this acute awareness of the current inadequacy of process research in organization studies that has prompted recent pressing questions about “how and why things emerge, develop, grow, or terminate over time” (Langley, Smallman, Tsoukas, & Van de Ven, 2009: 1). Adopting the useful distinction made by process philosophers between owned and unowned process theories (e.g., Rescher, 1996: 42), we argue, helps to address such questions. Owned process theories construe processes as the “doings” of/to otherwise stable social entities; they are owned processes because they’re represented as a priori causal determinants of outcomes. Unowned process theories, on the other hand, construe actors, organizations, and environments not as the underlying driving forces of change, but as themselves temporary and precariously configured casual effects of self-sustaining unowned process complexes. Change can happen “of its own volition” without need for an identifiable agent of change (Bergson, 1946/1992: 147–148). While owned theories of process view change as periodic transitions between otherwise stable states, unowned theories of process view change as pervasive, continuous, and relentless.

The essence of an unowned process analysis is not the certitude of identifiable agents, definable strategies, key events, or stable states but the irreducible equivocality actors face in their everyday coping actions—for every action taken in real time is taken in response to a perceived uncertainty (von Mises, 1949: 105). This, in turn, implies a necessarily *incomplete* or *partial understanding* of the situation faced and hence the possibility of unintended consequences arising from such coping actions. In order to undertake a serious process analysis of strategic change, uncertainty and hence a sense of a multiplicity of possible outcomes—of *otherness*—must be a constant shadowy presence in the narrative accounting of organizational situations. Under such circumstances, the choices man-

agers make at a particular point in time may seem expedient and appropriate, but may nevertheless create the very circumstances for their own downfall as situations unfold and the organization finds itself trapped in its own previous strategic commitments.

An unowned theory of process and emergence, therefore, eschews attributing success or failure solely to either the heroism or incompetence of leaders or, alternatively, to the munificence or perniciousness of their environment in favor of crediting eventualities to the unexpected turns of circumstances that influence the fortune and survival of an organization. Such a view does not negate the notion that managers, as conscious agents, can act purposively, but it acknowledges that every choice made and every deliberate action taken are necessarily partial; decisions and actions are ultimately arbitrary acts of “incision” made into the “flow of reality that simultaneously includes and excludes for attention” (Whitehead, 1929: 58; see also Chia, 1994; Spencer-Brown, 1969). Potentially, therefore, what is excluded from immediate attention because of the “imperious immediacy of interest” (Merton, 1936: 901) can always return as the source of unintended consequences in the future as circumstances unfold. From this understanding, the potency of agency is thus necessarily compromised as an inevitable feature of social existence. Success or failure, survival or demise cannot be wholly attributable to the deliberate choices that leaders make or to preexisting environmental forces. Rather, chance, happenstance, and luck have much to do in shaping organizational destinies. This argument suggests that in any set of circumstances latent possibilities are always present, but that these possibilities may never be realized simply because they were never noticed or because of the choices not taken.

Actors make decisions and take actions, but every choice made and action taken contain the seeds of both latent possibilities and unintended consequences that remain as potentialities at a specific moment in time; “ignorance and knowledge coexist” (Weick, Sutcliffe, & Obstfeld, 2005: 412). An unowned view of process leads to a redistribution of attention to “the far and the scattered alike” (James, 1909/1996: 251) so that seemingly remote, peripheral, or chance events are made to feature more prominently in explaining the outcomes of strategic change initiatives. From an unowned process perspective, organizational situations may emerge from unplanned “interactions between the consequences of choices made by various, sometimes unrelated, actors” (De Rond & Thietart, 2007: 546). These may have wide-ranging repercussions

for an organization. These events are what is meant by *black swans*: events that are perceptual outliers, but that may have an extreme impact if/when they occur. Cultivating sensitivity toward the role of black swans in processes of strategic change reflects awareness that sudden shifts, whether from product innovation or from discontinuities in supply, demand, or competitive dynamics, regardless of how subtle, can result in tightly integrated strategies unexpectedly falling apart. Moreover, as Starbuck argued, a "random event does not merely affect a single period; it becomes part of the foundation for future periods [and its consequences] may accumulate over time until they dominate the behavior of a causal process" (1994: 212 [quoted in De Rond and Thietart, 2007: 545]).

An unowned processual approach resonates with chaos/complexity theories in recognizing that a manifold of small changes can have cascading and disproportionate consequences as the full force of their aggregation is realized. Small adjustments—whether they are endogenous, such as managerial decisions on financing or on whether to enter or exit a market segment, or exogenous, such as a change in a competitor's strategy or fluctuation in currency exchange rates—can cause unexpectedly large outcomes (Burgelman, 1991, 1996, 2002; Burgelman & Grove, 2007; Dooley & Van de Ven, 1999; Levy, 1994; Lorenz, 1963; Plowman, Baker, Beck, Kulkarni, Solansky, & Travis, 2007; Thietart & Forgues, 1995). Yet, an unowned processual approach differs from chaos/complexity theories in its reluctance to accept entities and stabilities as the underlying causal basis of a complex reality (e.g., McKelvey, 1997, 1999, 2001).

In summary, several tenets of an unowned processual orientation to strategic change can be identified. First, change is accorded primacy over social entities; stable states are themselves viewed as causal "effects" of unowned fluxing processes. Second, every decision made and every action taken are necessarily partial and hence bring with them the possibility of unintended consequences occurring in the longer-term future. Multifarious and pluralistic unowned change processes interact with the strategic choices of managers or with environmental forces to play a significant role in shaping organizational realities. Third, there are latent possibilities with every small change, for such changes can have profound, wide-ranging effects in the longer term. Fourth, there is no predetermined underlying stable order in the often complex, confusing, and uncertain organization-environment nexus. Order can emerge spontaneously and evaporate just as quickly, often

with dire consequences. In what follows, we illustrate our argument empirically.

RESEARCH METHODS

In the following section, data from an in-depth, inductive study (e.g., Siggelkow, 2001, 2007; Yin, 1994) into the processes of strategic change and management at NorthCo are presented for an unowned process analysis. Our study demonstrates that to understand authentically the dynamics of organizational life as temporary and precarious accomplishments, researchers need to elevate unowned processes over causal entities in contemporary organizational theorizing.

Data Sources

Primary sources were 30 real-time interviews tracking the TMT of the automotive company over five years, and two months of situated study, which included informal conversations with plant managers, designers, and engineers and four nonparticipant observations of annual strategic planning meetings. Interviews were semistructured, lasted between one and two hours, and were digitally recorded and transcribed. Members of the TMT were interviewed repeatedly over the five years. In addition, informal contact was maintained between formal interviews via e-mail and telephone. Participants included the CEO, president, and VP finance, two successive VPs operations, and the VP human resources, VP marketing, and VP Sales. Recording of strategic planning meetings was not permitted. Instead, direct observation relied on extensive note taking, and to ensure their reliability, discussion of observations with TMT members during individual interviews. Secondary sources included internal documents and trade reports. In addition, we collected media reports and news articles on changes in NorthCo's external environment using Factiva, a full-text media database that allows for detailed searches.

Data Analysis

Data analysis took place between January and May 2010. We followed guidelines set out for "naturalistic inquiry" (Lincoln & Guba, 1985) and we used both first- and second-order analysis (cf. Balogun & Johnson, 2004). In the first-order analysis, we wrote a case history (Eisenhardt, 1989; Langley, 1999; Yin, 1994) that created "thick description" (Lincoln & Guba, 1985) of the managerial choices and emergent processes of strategic change at NorthCo. In the second-order analysis, we identi-

fied specific choices, chance events, unowned processes, and unintended consequences at various levels of organizational, industry, and macro socio-economic circumstances. We define choices as decisions taken, however partial, by members of the TMT. Chance events are black swan happenings, unanticipated by NorthCo's Executive. Unowned processes are those processes at organizational and environmental levels that, once in motion, were beyond anyone's control. Unintended consequences refer to outcomes of choices taken that are neither expected nor intended. Process complexes are confluences of processes interacting dynamically and underpinning strategic change at NorthCo. We traced the choices through time, paying special attention to both their intended and unintended consequences. In this phase of the analysis, we adopted an iterative method of constant comparison (Glaser & Strauss, 1967; Strauss & Corbin, 1990), moving between data and the processual tenets identified above from the process philosophy literature (e.g., Bergson, 1946/1992; James, 1911/1996; Mead, 2002; Rescher, 1996; Whitehead, 1926/1985) to make connections between concepts and the "complex feedback connections between them" (Garud & Van de Ven, 2002: 225). During this phase of the analysis we endeavored to focus on the processes themselves and their complex emergence. Although conscious of the usual limitations of qualitative, single-context research (including the influence of our own predispositions in "attending to" certain phenomenological aspects of the circumstances reported here), we chose an inductive, single-case-study methodology to gain insight into the processual nature of strategic change, thus making the trade-off with concerns for external validity (Eisenhardt, 1989; Lovas & Ghoshal, 2000; Yin, 1994) in favor of demonstrated empirical richness, explanatory power, and internal consistency (Van de Ven, 1992).

HISTORICAL OVERVIEW OF NORTHCO

NorthCo Automotive was established in 1968 in Canada to manufacture trailer hitches and towing accessories. In 1976 a young entrepreneur bought the company and over the next 14 years expanded and diversified the product lines into new automotive accessories for consumers wishing to customize their vehicles' appearance and utility. Between 1990 and 1999, the innovative product designs being produced by NorthCo caught the attention of several of the industry's major original equipment manufacturers (OEMs), including Chrysler, Ford, General Motors, and Toyota. NorthCo rapidly became a tier one supplier for automotive OEMs including Chrysler, Daimler, Ford, General Motors

(GM), Honda, Hyundai, Mitsubishi, Nissan, Subaru, and Toyota with operations in Canada and the United States. To meet demand from the OEMs, the company split into a division for producing exterior automotive accessories for OEM customers and a second division for manufacturing trailer hitches and towing accessories in the aftermarket channel. This division was sold in 2001.

Between 2000 and 2004, NorthCo diversified its business, developing painted plastics and coating capabilities, and began building global strategic supply partnerships in Asia by establishing a presence in the Shanghai area of China. Throughout this period, NorthCo won Toyota gold awards for quality and reliability, in 2001 and 2002; the Toyota platinum award, in 2003; Toyota's Supplier of the year award in 2004; and seven other awards for quality and reliability, from Chrysler, Honda, Subaru, and Toyota, between 2005 and 2008. It is in this context that NorthCo prospered and, at the commencement of this study in 2004, had just surpassed \$100 million in sales. The TMT members turned their attention to formalizing their strategic planning processes, and this coincided with the beginning of the study. By this time the TMT had expanded to 12 members, and a president, who had run the trailer hitch division in the 1990s, had been brought back to Canada from Detroit to take over running the company, thus freeing up the CEO to focus on strategy formation, strategic change processes, and board-related issues.

CHOICE, CHANCE, AND UNINTENDED CONSEQUENCES AT NORTHCO: THE EFFECT OF UNOWNED PROCESSES OF CHANGE

Choices about Market Positioning Strategy

Throughout 2004 and 2005, the TMT at NorthCo went through a formal process of analyzing and debating different market positioning strategy choices. Analysis suggested that there were five market segments for automotive accessories. They ranged from segment one, which was aftermarket sales to dealers and retailers, to segment five, which was high-volume production for OEM assembly. Segments two, three, and four were all low-, medium-, and higher-medium-volume manufacturing, usually for uplift programs that took place in facilities located next to OEM assembly plants. Although the vice presidents for operations and marketing argued that they should be entering segment five, the CEO, president, and VP finance preferred segment four because they were concerned over whether there was the capacity to achieve large enough economies of scale to be prof-

itable and whether this commoditized, low-margin segment would fit well with their perceived core competencies in design and engineering. In addition, the competitors in segment five were very large, vertically integrated players: "So there we were; *segment four* was our sweet spot—low to medium volume" (VP operations).

Choices about Manufacturing

NorthCo also faced the choice of whether to vertically integrate onshore to retain proprietorship over their manufacturing processes and intellectual property, or to develop a "virtual model" involving the "off-shoring" and outsourcing of their manufacturing processes. In the mid 1990s, the CEO had visited automotive plants in China, concluding that they did not have the manufacturing processes to ensure reliability and quality in their products. A trip to China in 2003, however, led the CEO to change his view. Vertically integrating was a high-cost option in a commoditized and hypercompetitive industry, so they made the choice to begin outsourcing and off-shoring their manufacturing where doing so could give them a cost leadership competitive advantage over their rivals, giving NorthCo flexibility. As the president commented, "The virtual model allows us to fit things together." Their logic was that as their products matured over time, they'd have an ability to "move down the cost curve" relative to onshore, vertically integrated competitors in North America: "That's where our virtual model works" (VP marketing). A team was dispatched to China in 2004 to establish partners for off-shoring and outsourcing NorthCo's manufacturing in the Shanghai region.

By the end of 2005, however, disagreements between the VP operations and the rest of the TMT over their segment four strategic focus was having a negative impact on the performance of NorthCo's operations. In transitioning to a new North American supplier for their step-tube manufacturing, the company suffered quality and reliability failures that disrupted its supply chain and created delays shipping products to OEM customers, prompting the VP operations to leave the company. But as fortune would have it, NorthCo's new Chinese outsourcing partners performed to a much higher standard than had been expected and allowed greater cost savings than had been forecasted. These internal dynamics were permeated by increasing volatility in segment four, where NorthCo focused on a level of production in-between aftermarket and high-volume production. As such, this segment became less attractive. Intense rivalry at the industry

level and constant pressure on the supply base from OEMs were creating flux and unpredictable revenue streams. The net result was unexpected financial losses in 2005.

Changes in the Industry Environment Lead to New Choices at NorthCo

By early 2006, a combination of industry and macroeconomic flux and surprise losses in 2005 prompted a change in strategic emphasis to try to adapt to the evolving market situation. The CEO and the president now felt that segment four was not such a great place to innovate because most innovations were being generated in the segment one, dealer-install aftermarket. The TMT chose to change their focus to be on products rather than market segments, taking a range of products such as grill guards, running boards, step-tubes, and painted plastic ground effects across segments two through four, thereby expanding their market. The intention was to insulate the company from volatile revenue streams. Their choice was also consistent with NorthCo's strategy of establishing a supply chain in China and implementing a cost leadership strategy.

At the end of 2006, the long-term strategy for NorthCo was to "continue to focus on being these innovative guys that bring the next big products to market" (CEO). An entrepreneurial strategy was consistent with the companies' founding culture, values, and sense of identity. The TMT was also considering entering into segment one, the accessories after-market, which, it was felt, would generate innovation, allow them to take products to market faster, and also be a more forgiving segment. They believed that they had moved down the outsourcing and off-shoring learning curve and would continue to focus on continuously looking globally for the next low-cost outsourcing option. For the present, they continued their investments in their outsourcing strategy in China, where they were generating competition by partnering with multiple suppliers and developing strong relationships, thus reducing the risk of overreliance on one major supplier and keeping their costs competitive. They continued to avoid developing business interests in the high-volume, low-margin, production line manufacturing in segment five. The move into China was proving to be a shrewd choice that was giving NorthCo a cost competitive advantage over their on-shore rivals, as financial data for increasing numbers of companies for sale revealed.

Changes in OEM Procurement Strategy Result in Chance Losses for NorthCo

NorthCo's VP finance and president anticipated returning to profitability in 2006, but unanticipated events conspired against expectations. NorthCo had won two large contracts for painted ground-effects accessories from GM and Chrysler worth approximately \$40 million and \$10 million, respectively. Yet, in the end, they generated less than \$4 million in revenues in total. GM changed their procurement strategy suddenly, allowing their dealerships to buy these accessories as optional rather than having them preinstalled, thereby reducing the anticipated sale of products. Meanwhile, Chrysler ran into internal political debates about quality control and durability testing processes instigated by their merger with Daimler, resulting in the launch of a very lucrative off-line program being delayed. NorthCo required a lead time of three years to cultivate and develop programs. When programs weren't as lucrative as forecasted, it took another two years to enact a recovery plan, which impacted company revenues. NorthCo lost approximately \$1.6 million in 2005. An unintended consequence of their move into China was that without the cost advantage of their China sourcing strategy, these losses would have increased by \$5 million to \$6.6 million, the VP finance estimated.

Changes in Demand for SUVs Lead to New Choices for NorthCo

In 2006–07, the automotive industry was still selling as many cars as normal (approximately 16 million). However, the supply base in North America was becoming increasingly unhealthy owing to overcapacity and intense competitive rivalry among the OEMs. GM in particular was aggressively driving down prices with their suppliers to improve their own competitive position. This meant that several of NorthCo's competitors had either gone bankrupt, exited the industry, or gone up for sale. The Canadian currency was also beginning to appreciate vis-à-vis the U.S. dollar, which could hurt the company's competitive position, but the VP finance dismissed this changing circumstance: "It doesn't bother me. Everyone's in the same position. . . . We've reduced our exposure by invoicing in Canadian dollars."

By 2006, NorthCo had lost most of its declining SUV business to a rival; this loss led to redundancies on the manufacturing side of the business but left design and engineering departments untouched. Most of NorthCo's recent growth had

come from the SUV market, but the internal Toyota and GM data, which the CEO of NorthCo was privy to, suggested that the pickup market would continue to stay stable in North America and have growth prospects globally: "It's actually very stable on the pickup side of the market. I get to see all the internal stuff from Toyota and GM, all their market research and that's basically what they're saying, where they see the market going and everybody's saying that the pickup market will be staying level" (CEO). In addition, the emergence of more fuel efficient vehicles presented new opportunities. Toyota was developing a hybrid Tundra version, and trends suggested that younger generations were opting for smaller vehicles that they would customize through accessories and painted plastic products. NorthCo also picked up a program of doing painted ground effects work for the Hyundai Accent. Table 1 presents a 2004–08 time line, summarizing the multiplicity of choices, chance events, and unowned processes emanating from the industry and manifesting in unintended consequences for NorthCo.

Unintended Consequences of Choices about Liquidity Lead to Chance Losses for NorthCo

By the end of 2006, the accumulation of disruptions in their North American supply chain, internal politics at Daimler-Chrysler, GM's change in procurement strategy, and changes in demand for SUVs was taking its toll, resulting in declining financial performance at NorthCo with cascading effects. The company's Canadian bankers decided to intervene by restricting credit and demanding that NorthCo's TMT take corrective action to improve its financial situation. NorthCo had a \$1 million hedge against the price of nickel. As most of its products used chrome, nickel was central to their manufacture, but the return on the hedge investment had been poor. Because of the intervention by their bankers, the TMT decided to inject liquidity into the business by liquidating their nickel hedge. Within the week, the price of nickel doubled, costing NorthCo \$800,000 in 2006, and the price continued to appreciate steeply throughout the duration of the study.

Their deliberate decision to liquidate their nickel position ended up costing them much more than they had imagined; it is a classic instance of an unintended consequence of strategic choice. From 2007 through 2008, nickel continued to appreciate in price, running costs up in the millions of dollars and forcing NorthCo to cope by changing the grade of steel being used, thereby reducing the amount of

TABLE 1
Choice, Chance, and Unintended Consequences of Industry-Level Change Processes

Time	Choice (Decisions and Actions)	Chance (Black Swans)	Unintended Consequences (Processes)	Exemplar Quotes
2004–05	NorthCo formulates an entrepreneurial strategy of innovation, focusing on segment four in the accessories market, diversifying customers, and developing a virtual model of outsourcing manufacturing processes.	Disruption of North American supply chain in step-tube products.	Financial losses. Increasing complexity in the business as products are aligned with customers.	"We're at a cross-roads—the future could be good or bleak. On the good side, wherever industries are in flux there are opportunities to take the right path. So on the positive side we have China and our production strategy." (president)
2005–06	Management restructuring. First round of downsizing on the manufacturing side of the business. Change of strategy from segments to products to reduce volatility in revenue streams.	Internal politics at Chrysler result in program launch delays. General Motors switches procurement strategy to dealer installation.	Off-shoring and outsourcing to China perform better than expected. NorthCo becoming trapped in a volatile market segment.	"If I'd had my head up more, if I'd gone over on that China trip three years before I did we would've done that China deal three years earlier. We would have expedited the whole process, the emerging pressures on the business by doing that, and I gotta tell you I think it's gonna come anyway. . . . It's interesting—you don't really know till you've got into it, but the differential was so big costwise." (CEO)
2006–07	Second round of downsizing on the manufacturing side of the business, consolidating manufacturing plants.	Legal dispute between the U.S. and Japan causes a delay in launching programs for Toyota.	SUV market continues to decline. NorthCo left with high complexity and high operating costs and falling revenues. Opportunities open up on hybrids.	"Step-assists have been around forever at about the same kind of rate . . . what drove our growth before was SUVs, but we've lost most of that. . . . Everyone's saying the pickup market will be staying level . . . you're going to see so many fuel-efficient options coming. . . ." (CEO)
2007–08	Third round of downsizing, beginning to reduce complexity by rationalizing product lines. Change in strategy to begin bidding on segment 5 programs. Begin working on service concept.	Structural shift in demand. Truck sales fall drastically. First financial losses at Toyota put company in internal disarray.	Other commodity prices rise sharply. NorthCo becomes trapped in its virtual model. Identity at NorthCo begins to shift from that of design company back to that of manufacturing company.	"High volume, low complexity fit in that segment five category that in previous years we'd never have done. Good margins, we'd secured that program." (VP operations)

nickel used in their chrome products, and by entering a joint venture with Du Pont and a Canadian university to develop and commercialize a nanotechnology that would equip plastics with metallic properties, potentially replacing the steel content in their products in the future. "It's been one thing after another. It's been a tough year" (VP finance).

Changes in Credit Markets Lead to Choices about Financing

NorthCo's declining financial performance in 2006 and 2007 led to refinancing difficulties: "We're definitely in survival mode at the moment, dealing with the banks and renegotiating our fi-

nancing, looking at new financing, so that's consuming a lot of our time at the moment" (VP finance). Banks perceived that there was overcapacity in the automotive supply industry, and concerns over GM and Chrysler's deteriorating fortunes, in particular, led to them restricting their financing for automotive companies. NorthCo's China-manufactured products had to be insured as they were shipped in containers across the ocean. Also, the company needed an extension of credit for the goods being shipped from Shanghai to warehouses in Los Angeles, and this was provided, after an exhaustive search of some 60 financial institutions, by an American finance firm.

Further complicating the situation was a rapid loss of market share by Chrysler, Ford, and GM to foreign-owned auto companies such as Honda, Hyundai, and Toyota. To combat declining market share, the "Detroit three" had been leveraging global outsourcing to force existing suppliers to cut their prices. As bankruptcies among suppliers mounted, an unintended consequence of the Detroit three's strategies was that credit markets contracted, further compounding the problem. Caught up in this process, NorthCo's bank sent word to the CEO at NorthCo indicating a desire to terminate their financing arrangements by November 2006. They had lost confidence that the company could hit financial targets and continue to survive. The bank's loss of confidence in NorthCo led to the president resigning and the CEO assuming control of the day-to-day running of the company. With the launch of delayed programs in December 2006, however, the company was beginning to return to profitability, and this helped persuade the company's bankers that it could indeed be turned around. A deal was negotiated with the company's bank that would bring financing in from another financial institution. At the 11th hour, one person on the bank's investment committee vetoed the deal, setting off a whole chain of events. The bank sent in consultants to assess NorthCo's viability. Even though NorthCo were down by six million dollars on their securities, the banks' consultants were advising the bank to give the company more time. The CEO and the VP finance assumed that was what was going to happen, but on one Friday in February 2007 the bank called the CEO and informed him that they would be in on Monday to shut the business down. Over the weekend, the CEO worked his contacts and found a private investor who was prepared to make a financial injection into the company. On the Monday morning, the CEO and the company's lawyers met with a bank official and the bank's lawyers. The bank's lawyers had a letter that, once opened, would put the

company into receivership. The CEO presented the bank with an alternative plan including fresh injection of capital without extending their existing debt with the bank, and after a series of phone calls to the bank's head office, the new deal was agreed on.

Unintended Consequences of Choices Made over NorthCo's Financing

The following day, a manager from procurement at Toyota phoned NorthCo to tell them that they had won large programs to produce grill guards for Toyota's new generation Tundra. Also, General Motors informed NorthCo soon after that it wanted to promote several other NorthCo programs, taking the company from \$60 million to \$75 million in sales. But the problem that NorthCo now faced was that the credit arrangements struck with their bank left them bereft of extra capital to take advantage of new sales and grow the business. The very actions they took to save the company from liquidation tied them to an agreement that prevented them from capitalizing on the new orders from Toyota and GM. Such was the irony of the situation they found themselves in. In the short term, to capitalize on these opportunities and increase revenues substantially, more credit was needed. Negative attention in the media to the automotive industry and the credit markets' hostile disposition toward automotive companies left NorthCo's TMT in a dilemma. On the one hand, their strategy was beginning to pay dividends, yet now they lacked the credit to pursue these opportunities vigorously. On the other hand, if they didn't keep up with increasing orders from automotive companies, they'd soon lose the confidence and trust of their customers in their ability to deliver. This dilemma was an unintended consequence of their negotiated deal with the banks. As the newly promoted VP operations explained:

It's terribly constraining just trying to run the business. . . . It's just been one obstacle after another and still trying to keep swimming along. . . . Frustration levels are extremely high because now we actually are in a situation where we're starting to see some sales recovery and we can't fund it. We're frustrated by the fact that we just cannot get the operating cash to fund the supply base and get material flowing again.

Changes in Demand Lead to Unintended Consequences of Past Choices over Positioning

By March 2008, a structural shift in demand in the North American automotive industry began.

Approximately 30 percent of the people who used to buy trucks began buying cars. Over a four-month period, one-third of NorthCo's traditional market segment disappeared. This was on top of a 2 percent overall decline in automotive sales. There were two perceived drivers of this shift. The first was the increasing price of petrol. The second, and perhaps more profound driver, was an emerging social trend: environmentalism had finally taken hold of American consumers.

Members of the NorthCo TMT, led by the CEO and VP finance, were coming to the realization that their current deteriorating economic conditions differed from past experience: "This is a deeper trough than we've been in previously, it's always been a volatile up and down business, I think the difference is that in the valleys before we've always tried to hold on to resources and not cut costs as quickly as our revenue is going down and we'd need those good resources" (VP finance). With a sudden structural shift in demand in the automotive sector, NorthCo was left with high operating costs, low margins, and low volumes on programs for vehicles such as the Dodge Ram that had been high margin and high volume for years. In addition, NorthCo had programs with 10–15 year service agreements with their customers. With OEMs cutting back, the profit profile in the industry changing dramatically and, complexity in the organization still high, NorthCo was saddled with the unintended consequences of past choices in a context of significant industry change.

Unintended Consequences of Choices over NorthCo's Manufacturing Strategy

To keep the Canadian bankers financing NorthCo in covenant, the TMT moved quickly to downsize once again. As the VP operations reflected, "All of a sudden the business had to dramatically change the way it'd been operating all these years, which is pretty hard to do, to reduce your overhead, because you continue to have that thought that perhaps the large sucking sound will somehow suck in more business to support the overhead that you have." Although their outsourced supply chain continued to give them a cost advantage, this lock-in arrangement also made it more difficult for NorthCo to move into new products. Their decision to pursue an innovation strategy reliant on a virtual model was trapping them in now-volatile industry segments, as the dynamics of unowned change processes subjugated deliberate choices taken in response to seemingly chance events. As a final resort, NorthCo's TMT changed their strategy to include seg-

ment five and began getting "bloody minded" (CEO) about winning high-volume contracts.

Chance Political Events Further Erode NorthCo's Financial Performance

The number of bankruptcies in the automotive industry was increasing rapidly in 2007. What differentiated NorthCo from other companies was its lower cost structure driven by the virtual model and outsourced operations in China. Despite their setbacks, cautious optimism about the future was expressed:

It's been a tough year, we're still around though, a lot of our competitors are gone, which is nice, but we're showing great numbers for next year again and we've transitioned out of the GM business, got a lot of Toyota business, which is great. (CEO)

Further brightening the company's prospects were unintended consequences of NorthCo's adaptive choices about manufacturing and market positioning strategy. The selecting-out of several competitors because of higher cost structures created more market space. Daimler-Chrysler was also resolving internal disagreements over procurement of off-line programs and realizing that its new procurement strategy was not nearly as lucrative; and GM was returning to its previous procurement model, which benefited NorthCo. NorthCo had also been winning more contracts with Toyota and Hyundai, allowing NorthCo to transition out of business with GM, which was assumed to be less stable. As the VP finance remarked:

In the immediate future we're seeing some of the customer issues resolve themselves at the customer level. So Chrysler's turning offline back on, GM's switching back to their old [procurement] model, the Hyundai business is launching so some of those things are just working themselves through. We're dealing with the commodity issue, beyond that we really need to circle back.

Before long, however, NorthCo ran into more bad luck. A program had been won to produce grill guards for Toyota's FJ Cruiser, which was selling well. Three weeks before the launch of the program, Toyota informed NorthCo that they would not be able to launch because of a political trade dispute between the United States and Japan and legal issues concerning air bags. The launch was supposed to go ahead in April, and the program was projected to be very lucrative. As a consequence, the program launch was delayed until December, further diminishing financial performance.

Changes in Macroeconomic Exchange Rates Lead to Forced Restructuring for NorthCo

The rising price of nickel paralleled a steep appreciation in Canadian currency, which had transitioned from a largely latent concern into a major challenge for NorthCo's competitiveness. NorthCo had enjoyed a favorable exchange rate with the United States for more than three years, with the Canadian dollar (CD) remaining relatively stable at 65 cents to the American dollar (USD) between 1999 and mid 2003. By January 2004, the exchange rate had appreciated to nearly 0.77 USD, and it continued its volatile appreciation through 2005 and 2006. On September 20, 2007, the CD reached parity with the USD, eventually reaching a high of 1.07 USD on November 7, 2007, before depreciating back to 0.81 USD by the end of 2008. The currency fluctuations between 2004 and 2009 had unexpectedly resulted in erosion of an important source of competitive advantage and by 2008 were having a detrimental impact on NorthCo's bottom line. This confluence of unowned processes resulting in chance events and unintended consequences of past choices led to a further downsizing of NorthCo's workforce while, in the words of the newly promoted VP Operations, "maintaining the organization on the promise of the future [conditions improving]." This meant that costly design and engineering departments continued to be maintained.

Chance Financial Crises Leads to Strategic Change

The hostility of the credit markets toward the automotive industry was compounded with the engulfment of the world in the 2008–09 global financial crises. Vehicle sales fell by an additional 25–30 percent over expectations. The net effect for NorthCo was that its banks further reduced its credit by \$3 million dollars, thereby delaying payments to NorthCo's suppliers. Between November 2008 and January 2009, NorthCo negotiated with Chrysler and GM to be paid much more quickly than normal to help with the cash flow problem. NorthCo had recently won a program on GM's Camaro, and, in a change in strategy, they also secured a segment five program to produce wheel-well liners for the Dodge Ram pickup. The wheel-well liners were to come to one of NorthCo's plants, where insulation clips would be installed, and then shipped out in bulk: "High volume, low complexity, fit in that segment five category that in previous years we'd never have done, good margin, we'd secured that program" (VP operations). This freed up cash to pay NorthCo's suppliers, who were also struggling to stay solvent.

Choices about Financing Trap NorthCo in Unowned Processes of Change

A final event surprised NorthCo when their American bankers decided to withdraw credit for any products being shipped across an ocean. NorthCo's receivables were being insured by Export Development Canada, a facility that had been put in place to help cope with volatility in the credit markets caused by the 2008–09 financial crises. In their search to find creditors for their goods being shipped from Shanghai, NorthCo had switched from Canadian to American bankers. Their American bank, as chance would have it, wasn't familiar with the Canadian government and didn't trust the company's insurance cover. This credit withdrawal and the fact that 50 percent of NorthCo's revenues now came from outsourced operations in China left the company without the cash to pay suppliers and hold inventory in its warehouses in California, where their products were imported from China. As the CEO quipped, "Remember, cash is king." Table 2 presents a 2004–08 time line summarizing the multiplicity of choices, chance events, and unowned processes emanating from commodity markets, credit markets, and macroeconomic flux and manifesting in unintended consequences for NorthCo.

NorthCo was already in a very tight situation. Up until the end of 2008, creditors considered inventory to be an asset. Finished goods and inventory were valued more highly than raw material. Because NorthCo had suppliers in China, however, its finished goods inventory spent three plus weeks in transit before it could be sold. This resulted in a gap between when cash was needed to buy the inventory and when the company could sell it to generate revenues. Initially, NorthCo's lender recognized that the inventory was finished goods and advanced cash availability against it, even though it was in transit on the water. However, their American banker suffered an on-the-water loss of inventory with another client, and that client's insurance company refused to pay out, resulting in a loss to the bank. Consequently, the American banker suddenly changed corporate policy and stopped providing credit for on-the-water inventory. This posed a major problem, as NorthCo needed this credit to pay their suppliers. The withdrawal of coverage for on-the-water inventory and the refusal to provide capital against that asset left NorthCo crippled. This set off another cavalcade of events. Because they did not have available cash, they didn't have enough in their operating line to be able to cover inventory, a typical cash flow problem. The VP operations

TABLE 2
Choice, Chance, and Unintended Consequences of Credit Market and Macroeconomic Change Processes

Time	Choice (Decisions and Actions)	Chance (Black Swans)	Unintended Consequences (Processes)	Exemplar Quotes
2004–05	Liquidation of nickel hedge.	Canadian bankers intervene, restricting credit. Canadian currency begins to appreciate in value.	Surprise financial losses and deteriorating financial performance. Commodity prices begin to rise. Credit markets begin tightening with negative automotive news in the media.	"Competition in tubes in particular is cut-throat. Our strategy is to go low cost. We're poaching. I sent a letter to GM telling them we can produce tubes for \$20 cheaper—50,000 units—million dollar saving for them. GM is the only one that will do this." (president)
2005–06	60 different creditors approached to refinance the company.	Canadian bankers demand to be out by November.	Canadian currency continues to appreciate. Price of nickel continues to appreciate. Detroit Three lose market share to Toyota, Honda, and Nissan.	"But it's just a precarious time where, on one hand, it's great that the business is finally growing and that it's all turning out the way we planned, just very delayed, we're starting to make money etc., but on the flipside, the credit markets are still in a tizzy and it's just been consuming—to be honest with you—to try and just get a deal done and to figure out where we're going to go." (CEO)
2006–07	Appreciation of the Canadian currency wipes out earnings. Canadian bankers threaten to shut the company down.	NorthCo forecasts 25 percent growth, but credit markets are restricting credit.	NorthCo finds private equity to keep the company solvent. Wins significant Toyota program.	"We can win as much business as we want, but we don't have the banking support. But thankfully, the future looks bright." (CEO)
2007–08	Global credit crisis strikes. NorthCo's access to credit reduced by an additional \$2–3 million.	Credit dries up. Canadian currency surpasses American currency in value.	NorthCo switches to American bankers willing to credit goods being shipped overseas as assets.	"This is a deeper trough than we've been in previously. It's always been an up-and-down business. I think the difference is in the valleys; before, we've always tried to hold on to resources and not cut costs as quickly as our revenue was going down, because we'd need those resources. I think this time we've been more aggressive, we've reduced headcount more than we have in the past." (VP finance)

stated, "We just couldn't support it. So we started to have this whole domino effect, we couldn't pay the money to suppliers so the suppliers stopped delivering . . . we went into backorder. GM said we were in default of contract. They cancelled all of our open contracts."

Choices Overwhelmed by Unowned Processes

Relentless industry and macroeconomic change resulted in the TMT initiating a more fundamental rethinking of the business. They dubbed the process "wrestling with alligators" (VP operations), which reflected the difficulties in coping strategically with primordial unowned forces beyond their

control. They began working on a service concept wherein NorthCo would use its strong relationships with OEM customers and hard-won expertise managing global supply chains on a consultancy basis, but the accumulation of unintended consequences resulting from past choices interacting with chance events and unowned processes left NorthCo in a precarious position. Toward the end of 2008, monthly sales declined for NorthCo until they hit an all-time low of \$2.2 million in January–February 2009. Sales had fallen well below the overall decline in automotive sales. This was due to OEMs running down their inventory before placing orders to cope with their own crises. OEMs' holding NorthCo inventory amplified the effects on

NorthCo's demand curve. By April 2009, the OEMs had used up much of that inventory, and NorthCo was experiencing a spike in sales of more than \$4 million for the month, higher than the wider industry recovery in automotive sales generally. With high volumes of orders coming in, NorthCo would have returned to profitability, but without the credit facilities to get their supply chain moving, the TMT once again found themselves in the position of being unable to finance the new growth. Table 3 summarizes this multiplicity of choices, chance events, and unowned processes resulting in unintended consequences, the culmination of which in 2008–09 overwhelmed managerial intention at NorthCo.

On April 30, 2009, Chrysler filed for chapter 11 bankruptcy protection in the United States. The NorthCo TMT began implementing contingency plans, including winding down the company, selling to a competitor, or refinancing through a Canadian investment bank that they'd been in talks with. As a consequence, they began looking at how they were going to restructure and reduce costs further. On Monday June 1, 2009, GM filed for bankruptcy. On Wednesday June 3, 2009, Chrysler gave NorthCo notice that it would be canceling its contracts. The following day, Thursday June 4, 2009, GM canceled all of its contracts. Within 48 hours, NorthCo had lost two of its major customers, taking its annual sales down to \$20 million: "It was just getting silly at that point, we were like 'OK, we're done, we just can't make it'" (VP operations). After 40 years of business, NorthCo Automotive was overwhelmed by a tsunami of events manifest in processes ranging from the trappings of their own strategic decisions to changes in compet-

itor strategies, currency appreciations, commodity appreciations, credit market volatility, demand shifts, credit crises, and finally, the bankruptcy of two major customers. NorthCo filed for bankruptcy on Friday June 5, 2009.

DISCUSSION

We began by asking how chance, relentless change, environmental circumstances, and unintended consequences can collude to shape organizational destinies, despite the very best managerial intentions and decisions. Our purpose has been to progress a perspective on strategic change that takes into account the presence of unowned processes that can undermine intended organizational outcomes. This approach steers a middle path between exaggerating the efficacy of agency and choice and/or the debilitating consequences of overpowering environmental forces by showing how choice, chance events, and industry and global changes interact to produce unintended consequences that can play a decisive role in the success or failure of organizations.

The analysis presented above suggests that neither strategic choice nor population ecology explanations are able to fully account for NorthCo's eventual failure. Instead, creative evolutionary processes in which managerial choices are made in the context of "one great blooming, buzzing, confusion" (James, 1911/1996: 50) better characterize NorthCo's predicament and eventual demise. NorthCo's strategic choices at each point in the saga, born of an "imperious immediacy of interest" (Merton, 1936: 901), contained the seeds of the company's own downfall, as it eventually became

TABLE 3
When Chance Events and Unowned Processes of Change Overwhelm Managerial Choice

Time	Choice (Decisions and Actions)	Chance (Black Swans)	Unintended Consequences (Processes)	Exemplar Quotes
2008–09	Negotiate with Chrysler and GM to be paid for products much more quickly, to support restructuring and allow NorthCo to pay their struggling suppliers faster. After searching for alternatives, NorthCo TMT take the decision to cease trading.	Global financial crises hits. Vehicle sales deteriorating. NorthCo's American bankers change policy on crediting on-the-water goods as assets, withdrawing access to credit and setting off a cavalcade of events. Chrysler declares bankruptcy. General Motors declares bankruptcy.	NorthCo becomes trapped in their financial agreements with financial institutions. Automotive industry goes through a seismic structural shift. OEMs run down inventories.	"So within 48 hours, Chrysler pulled their business and GM canceled all their contracts—Wednesday and Thursday. By Friday, we were on the phone with the lawyer and saying we were done. Without all the GM business, and without Chrysler, we were down to about 20 million or something, it was just getting silly at that point; we were like, 'OK, we're done, we just can't make it.'" (VP operations)

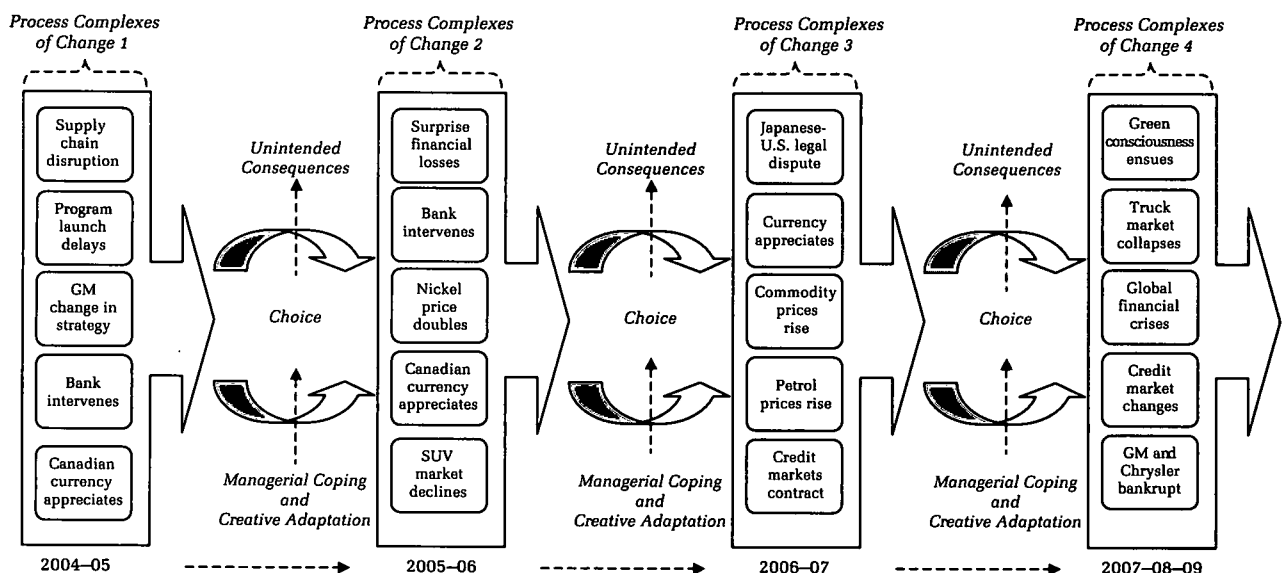
overwhelmed by the unintended consequences of its TMT's very own strategic actions. For instance, despite setbacks with their on-shore manufacturing supply chain in 2004–05, NorthCo's TMT members' decision to rely on outsourcing to China rather than vertically integrate turned out much better than expected, with the unintended consequence of enabling the company to survive for quite some time throughout the tumultuous period under study. Yet, paradoxically, it also resulted in another unintended consequence: preventing NorthCo from being able to switch into new products easily. The company's virtual model trapped it in the accessories market, which became more volatile as situations evolved. Under difficult operating conditions toward the end of 2006 and at the beginning of 2007, NorthCo's TMT made an agreement with their bank to restrict credit facilities, which allowed them to continue to trade but also left them unable to capitalize on opportunities offered by the contracts that they had won from GM and Toyota. Ironically, their business outlook looked bright, but their inability to make the most of the situations because of the unintended consequences of their agreement to restrict credit contributed to their eventual downfall. It also became a major setback when their American creditors changed their policy for on-the-water goods, thereby precipitating a major cash flow problem. This predicament was also partly a result of the decision to switch from a Canadian to an American banker because it was more expeditious at that point in time. Had NorthCo persisted and found a

Canadian creditor, the Canadian government would have extended guarantees to their Canadian banks, giving NorthCo the cash to continue operations and trading.

Compounding circumstances were the severe financial crises in 2008–09, which resulted in the not wholly unexpected bankruptcies of Chrysler and GM that left NorthCo in a particularly vulnerable position. This period also saw Toyota in disarray, as that company experienced its first losses. Similarly, NorthCo's decision not to pursue segment five initially trapped the company in a market niche that was reliant on the receding SUV market and the presumed stable truck market, which disappeared almost overnight as petrol prices spiked and environmental consciousness set in with the American consumer. Clearly NorthCo had the capabilities and systems to produce for segment five, and though the margins were lower, the business would have been more reliable. Moreover, as credit markets were becoming more difficult, NorthCo's TMT's seemingly innocuous decision to liquidate their hedge on nickel trapped them in a sudden spiral of increasing commodity costs.

As Figure 1 suggests, wave after wave of change manifest in complexes of unowned processes interacting dynamically (illustrated in the figure in process complexes one through four, representing confluences of occurrences) overwhelmed managerial choices and intentions (fashioned in response to changing circumstances but resulting in unintended consequences, illustrated diagrammatically by the arrows around the choices in Figure 1),

FIGURE 1
Choice Overwhelmed by Chance Events and Unintended Consequences Produced by Waves of Unowned Process Complexes of Change



leaving the NorthCo TMT to struggle and cope with their emerging and largely unintended future.

In the final analysis, NorthCo's demise was due neither to unrealized intention nor to preexisting external environmental forces. NorthCo had clearly changed as it struggled to cope with rapidly and relentlessly shifting circumstances. The company went through three rounds of downsizing; its senior executive was reduced from 12 to 4 members; and its strategy went through three significant iterations, including reducing the amount of products made and taking products across segments, eventually bidding on programs in the segment five category, and finally developing a supply chain management service concept. Toward the end, NorthCo's sense of identity even showed signs of beginning to shift back to that of a manufacturing company from that of a design and engineering company as a result of emerging pressures from the unowned processes identified above. But the real irony is that NorthCo ceased trading despite having considerable amounts of profitable business and an above-industry-average recovery. It was the incidents, the accumulation of historical events, the interlocking effects of prior decisions, and their eventual unintended consequences that downed NorthCo.

Scholars have speculated on why selection processes may fail to explain survivals of weak organizations or populations and failures of strong ones under extant theory (Barnett, 1997; Barnett & Burgelman, 1996; Barron, West, & Hannan, 1994; Carroll & Harrison, 1994). Levinthal and Posen (2007), for instance, postulated that selection is intrinsically myopic and that organizational adaptation may limit the efficacy of population selection. Such explanations, whether from adaptation or population ecology orientations, take an owned approach rather than focusing on the processes themselves and imply essential stabilities in either organizational or environmental traits. We suggest that such *ex post facto* justifications for inadequacies in theory ignore the possibility that in a world of constant change and flux, a new set of philosophical assumptions may be needed to understand processes of strategic change. What is being offered here is an alternative unowned process view that recognizes the importance of action, interaction, spontaneous change, and their unintended consequences. Although it could be argued that our study succumbs to a "fallacy of the wrong level," conflating organizational, industry, and macroeconomic levels of analysis, our ontological reversal collapses such synoptic arguments, implying that outcomes are a consequent of mutually causal process complexes. "Choice" and "environ-

ment" are not separate from one another; instead, the one constitutes the other to which a response is subsequently made. Outcomes in themselves, whether for an organization or for a population, are thus only temporary stabilities located in hindsight in a relentlessly changing reality.

The well-intentioned choices exercised at NorthCo were overtaken by unintended consequences that resulted from the dynamics of unowned process complexes. The primary cause of its eventual undoing was a preoccupation with choices made to resolve immediate problems, precipitating the set of paradoxical situations the TMT subsequently found themselves in. Choices, as we intimated in our theoretical development, entail an *arbitrary* operation of "cutting off" (Whitehead, 1929: 58–59). Choosing is fundamentally an ontological act of selective attending-to in order to remove "equivocality and thereby help to configure a version of reality to which we then subsequently respond" (Chia, 1994: 795). Choices, therefore, are not straightforwardly made *in response* to an existing environmental situation. Rather, *the environment* "arises from a decision for it" (Whitehead, 1929: 58; emphasis added). As a consequence, all choices generate an excluded "surplus" or "remainder" (i.e., what is not attended to, suppressed, ignored, or relegated in importance) that then serves as the origin of unintended consequences that subsequently return to haunt the choice made. Choices trigger unowned change processes that then costructure the possibilities and thus the outcomes for organizations. An unowned process perspective makes chance and unintended consequences core to its logic because the spontaneous emergence of situations generated through the essentially partial actions and interactions of organizational actors with their perceived environment imply that the possibility of black swans is ever present. The latter is, in reality, nothing more than the cumulative unintended effect of decisions previously made; it is the "remainder" generated through the arbitrary making of an "incision" into the flow of organizational reality.

Such a shift toward an unowned view of process raises questions about what criterion should be used to analyze and judge the success or failure of organizations. Strategic choice advocates, for instance, might explain strategic change at NorthCo in terms of a dominant coalition, and particularly an ambitious CEO, favoring research and design over manufacturing, which led to errors of judgment in their search strategies, sequential goal seeking and, despite well-structured strategic decision-making processes, the mental representations of their environment that they constructed. Strategic choice advocates might thus conclude that these internal choice dynamics, although well in-

tioned, led to mistakes over financing, manufacturing, resource allocation, and positioning that ultimately led to the company's failure.

Population ecologists, by contrast, would accept that the TMT at NorthCo made choices, but they would point to other reasons for the eventual failure. For instance, the choice to pursue a virtual versus a vertically integrated model reflected variation, but later, ecologists might argue, it led to structural inertia. For NorthCo to have changed strategy and vertically integrated successfully, its TMT would have had to identify a competitor in distress and bought its assets at, say, ten cents on the dollar.

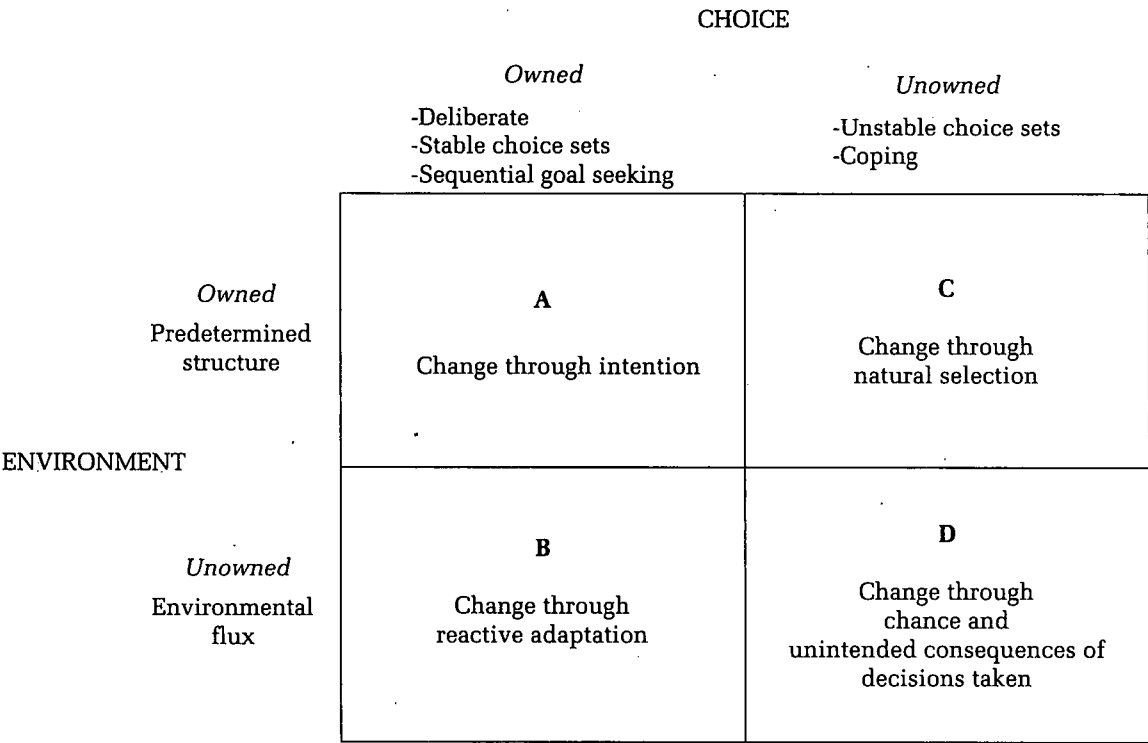
Investing in new assets would have required too much cash and increased the company's cost structure. So, given that NorthCo had been pioneering outsourcing and off-shoring in its automotive niche since 2000, a certain amount of structural momentum accumulated. Although evidence from prospectuses of competitors that had been for sale clearly showed NorthCo to have one of the lowest manufacturing cost structures and highest profitability levels in its sector, population ecologists might also point out that the company's model relied on debt financing, and given this dependence on external financial resources, their increasingly unattractive balance sheet exacerbated difficulties in attracting financing in an already hostile financial resource environment. They might also point out that the companies within NorthCo's species population that survived the financial crises were those that were leaner and vertically integrated, albeit less innovative. NorthCo's variation was, therefore, not retained by the environment, but selected out.

More thoughtful strategy process scholars would acknowledge that both perspectives offer insight into the reasons for NorthCo's failure, yet their own emphasis on the state of things and how they change (cf. Bergson, 1911; Whitehead, 1929) in their explanatory framework continues to rely on an owned view of process that essentially limits their ability to explain fully the eventual demise of NorthCo. An alternative way of conceptualizing the processes of change at work in the NorthCo case is to draw on the unowned tenets identified in our theoretical development and to show how process complexes of interlocking choices, chance, and environmental flux can conspire to produce the unintended consequences that NorthCo faced throughout this unfortunate saga. First, both NorthCo's choices and industry environment were in a constant state of change and fluidity. Decisions fueled by the "imperious immediacy of interest" (Merton, 1936: 901) were taken that inevitably led

to unintended consequences, but such consequences are only explainable in hindsight. The very outsourcing and offshoring strategy that left NorthCo vulnerable when Chrysler and GM went bankrupt may well have become the *modus operandi* of the industry sector in the future. And although NorthCo was carrying approximately five million dollars too much debt, its above-industry-average return to profitability and growth prospects would have improved its debt ratios. Alternatively, it may have encouraged NorthCo to seek a merger with a segment five player, thereby injecting liquidity and combining NorthCo's considerable design and outsourcing capabilities with the high-volume-manufacturing capabilities of a partner. When change is constant, and stability only a set of secondary transient manifestations, uncertainty is inevitable, and unexpected outcomes are always possible. Second, in the NorthCo case, change was rarely ever owned by either the TMT or by some predetermined industry environment. The balance between the two was constantly disturbed by the choice-chance-environmental change interactions; unowned processes created unexpected lock-ins that, in turn, eventually led to the rise of unintended consequences. Such unintended consequences occur through a confluence of unowned processes in process complexes that eschew a linear causal accounting. Third, with every change that NorthCo made, latent possibilities existed, as small adjustments and commitments had profound and wide-ranging effects over the longer term. When NorthCo ceased trading, it had already been through a process of reducing complexity in the business, and the leaner structure, cost-competitive manufacturing strategy, and new segment five focus contained all kinds of unrealized potentialities. Fourth, throughout the NorthCo story, there was no predetermined underlying order that produced stable choice sets. Order emerged spontaneously, as with the brief period of strategic planning in 2004, and evaporated just as quickly, in this case having dire consequences for NorthCo. So although our framework accommodates many of the insights that come from both strategic choice and population ecology perspectives, we argue that to understand processes of change in management and organization, particularly in nonlinear contexts, process must be understood as the unowned primordial driving force behind change, and things, events, and stable states must be understood as simply temporary manifestations of this ever-fluxing milieu.

As Figure 2 illustrates, owned versus unowned perspectives can be conceptualized in terms of whether environment is viewed as largely a prede-

FIGURE 2
From Owned to Unowned Conceptualizations of Choice, Chance, and Environmental Determinism



terminated structure or as fluxing and whether choices are viewed as primarily stable choice sets deliberately taken in the sequential pursuit of goals, or unstable choice sets taken while creatively coping with change. In quadrant A, where environment is well-configured and choices are stable, change is likely to be an orderly process of strategic positioning driven by managerial intention. In quadrant B, where environment is fluxing but choice sets remain stable, strategic change is likely to still rely on reactive responses of managers as they seek to adapt to their environment. In quadrant C, where environment is persistent and unyielding, choices are limited and constrained, and change is largely determined through environmental selection. In quadrant D, however, where the environment is fluxing and strategic choices are largely superfluous, in situ practical coping action takes place; change is driven by choice-chance-environmental interactions and instantiated by unintended consequences. We would argue that NorthCo was always in quadrant D, but quadrants A through C, and especially A and B, reflect the various perspectives on how NorthCo managers saw their own situations evolving. Had they from the outset rooted their approach in an unowned perspective—or in quadrant D—(as did General Kutuzov in Tolstoy’s *War and Peace*), they may

have placed less emphasis on the stabilities and relationships they had come to be acquainted with and more on peripheral events and analyzing nonlinearities. This may then have rendered more thinkable the possible unintended consequences arising from the choice-chance-environment process complexes that are the sine qua non of a philosophically infused perspective on process.

CONCLUSIONS

Our conclusion is that advocating an unowned process analysis of change in organization and management involves embracing and acknowledging reality as indeed chaotic, complex, fluid, sometimes random, frequently messy, and often surprising in its emergence. Equally importantly, this implies that in explanatory accounts, the role of social entities, whether they be agency and intention or environment, must be moderated to take into consideration extenuating circumstances brought about by unowned change processes that can play a vital role in shaping organizational destinies.

Contributions to Theory

This study shares Langley et al.’s interest in “understanding process questions about how and why

things emerge, develop, grow, or terminate over time" (2009). Our first contribution to this emerging research milieu is to advance a philosophically informed, unowned perspective on processes of change that emphasizes process as a constantly moving, frequently messy, rarely controllable, and often unpredictable phenomenon. Such an ontological reorientation leads to our second contribution, which is moderating the primacy and causal efficacy of social entities, be they actors, organizations, or environments, by enhancing the importance of chance, flux, and unintended consequences in bringing about desirable or undesirable outcomes. Although the literature has acknowledged the role of chance and unintended consequences in strategic change (e.g., Balogun & Johnson, 2005; Boisot & McKelvey, 2010; Burgelman & Grove, 2007; De Rond & Thietart, 2007; Dooley & Van de Ven, 1999; McKinley & Scherer, 2000; Pettigrew, 1997; Plowman et al., 2007; Porter, 1991; Thietart & Forgues, 1995), that role nevertheless fades all too often into the background in the academic accounting of processes of change. Our third contribution to theory is reframing the debate between strategic choice and environmental determinism through an attempt to contribute to a genuinely processual approach to studies of change and management. We do this by showing empirically how unowned processes can interact in unpredictable ways, engulfing purposeful action in novel process complexes.

Implications for Practice

Such a reframing of the debate between managerial choice and environmental determinism in terms that reflect a processual philosophical orientation also has implications for practice. An unowned processual approach requires cultivating sensitivity to the periphery, where black swans that broadside even the most well intentioned managers often originate. Scenario thinking, unlike forecasting, for instance, entails the generation of alternative plausible outcomes for choices taken. Scenarios intimate the ever-present possibility of *otherness* and alert organizational actors of the possible unintended consequences of decisions made to resolve immediate concerns. They also serve as a counter to selective blindness in scanning the environment and could have alerted NorthCo to the possibility of wider global changes taking place, such as the rising imbalance of savings between East and West and the volatile currency exchange situations, as well as the problems facing the automotive industry and their possibly wider ramifications for each of the strategic choices NorthCo's

TMT members were taking. Arguably, the TMT might have also been alerted to the risks of overreliance on financial borrowing for expansion or the burden of a sudden withdrawal of on-the-water goods. We therefore suggest that cultivating an internalized *agility* and *mindfulness* involving ongoing creative adaptation as a *modus operandi* based on an "unowned" process orientation is a more effective approach for dealing with the unintended consequences of action in a messy and constantly changing world. As Tolstoy (1869/1993) so eloquently demonstrated in his epic chronicling of Napoleon's war with Russia, a "control" ontology in a fluxing world has great propensity for leading to mistakes that can prove fatal. This same error characterizes NorthCo TMT's abiding illusion of their own ability to unilaterally control their own organizational destiny.

Limitations and Future Research

We acknowledge that studying a single case within a specific set of circumstances may limit the ability to generalize some of our findings. However, what we believe to be transferable is our fundamental message, that an unowned process approach is a more authentic way of understanding change as an impersonal primordial driving force that often overwhelms purposeful adaptive choices and natural environmental selection. Although actors act as a way of realizing a plausible outcome, events take on a life of their own. And so at NorthCo the actors had little to do with the viability of the business in the final reckoning. Environments, though, are not a fixed mold. Actors reply to environmental pressures, but their replies generate a reaction, and so on *ad infinitum*. So it is an ongoing interaction that in this case resulted in collapse. That is why process complexes generate unexpected outcomes. In this sense, black swans are a way of explaining why these interactions by actors failed as the NorthCo TMT members were caught up in an eventuality they did not expect. Even with their best intentions, events overtook the choices of the TMT at NorthCo as circumstances overwhelmed them. Moreover, such chaotic circumstances eschew a strictly linear historical accounting. All kinds of possibilities were latent at every moment, but decisions were taken that contained both the seeds of the company's rejuvenation and its entrapment in these decisions.

Such a perspective opens up new possibilities for understanding process theories of change and management. We would encourage further research that explores the nuances of an unowned

perspective at multiple levels of analysis and in differently sized organizations embedded in industries whose competitive dynamics are of varying intensity. Exploring the emergence of change from seemingly innocuous occurrences at the periphery of organization and/or environment and their manifestation as major strategic considerations, investigating various modes of development in multicausal strategic change processes and how they are dispositionally structured over time, researching the interplay of old with new processes in novel process complexes, and studying the transition of subterranean micro processes into instantiated coordinate macroprocesses in interconnected nonlinear systems, and vice versa, are all examples of how an unowned processual focus can deepen understanding into the creative and innovative nature of a manifold of human experiences.

Our study suggests that process studies of change and management need to be reoriented. An approach that subjugates agency to process and casts choices, decisions, and actions as epiphenomenal suggests that success and failure can thus be seen as incidentals. It equally downplays the heroic role of agency and the inherent pessimism of population ecology theories of organizational survival. It was a series of incremental and unexpected accumulations of circumstance, chance events, and unintended consequences that in the end downed NorthCo. This, we argue, is more typical of what actually happens in the world of strategic change in organization and management.

REFERENCES

- Aldrich, H. 1979. *Organizations and environments*. Englewood Cliffs, NJ: Prentice Hall.
- Aldrich, H. 2000. *Organizations evolving*. London: Sage.
- Aldrich, H., Hodgson, G., Hull, D., Knudsen, T., Mokyr, J., & Vanberg, V. 2008. In defence of generalized Darwinism. *Journal of Evolutionary Economics*, 18: 577–596.
- Astley, G., & Van de Ven, A. 1983. Central perspectives and debates in organizational theory. *Administrative Science Quarterly*, 28: 245–273.
- Balogun, J., & Johnson, G. 2004. Organizational restructuring and middle manager sensemaking. *Academy of Management Journal*, 47: 523–549.
- Balogun, J., & Johnson, G. 2005. From intended strategies to unintended outcomes: The impact of change recipient sensemaking. *Organization Studies*, 26: 1573–1601.
- Barnett, W. 1997. The dynamics of competitive intensity. *Administrative Science Quarterly*, 42: 128–160.
- Barnett, W., & Burgelman, R. 1996. Evolutionary perspectives on strategy. *Strategic Management Journal*, 17: 5–19.
- Barron, D., West, E., & Hannan, M. 1994. A time to grow and a time to die: Growth and mortality of credit unions in New York City, 1914–1990. *American Journal of Sociology*, 100: 381–421.
- Baum, J., & McKelvey, B. 1999. *Variations in organization science*. London: Sage.
- Baum, J., & Rao, H. 2004. Dynamics of organizational populations and communities. In M. Poole & A. Van der Heijden (Eds.), *Handbook of organizational change and innovation*: 212–258. New York: Oxford University Press.
- Baum, J., & Singh, J. 1994. *Evolutionary dynamics of organizations*. Oxford, U.K.: Oxford University Press.
- Bergson, H. 1911/1998. *Creative evolution*. New York: Dover.
- Bergson, H. 1946/1992. *The creative mind*. New York: Citadel.
- Betton, J., & Dess, G. 1985. The application of population ecology models to the study of organizations. *Academy of Management Review*, 10: 750–757.
- Boisot, M., & McKelvey, B. 2010. Integrating modernist and postmodernist perspectives on organizations: A complexity science bridge. *Academy of Management Review*, 35: 415–433.
- Brown, S., & Eisenhardt, K. 1997. The art of continuous change: Linking complexity theory and time-paced evolution in relentlessly shifting organizations. *Administrative Science Quarterly*, 42: 1–34.
- Burgelman, R. 1991. Intraorganizational ecology of strategy making and organizational adaptation: Theory and field research. *Organization Science*, 2: 239–262.
- Burgelman, R. 1996. A process model of strategic business exit: Implications for an evolutionary perspective on strategy. *Strategic Management Journal*, 17: 193–214.
- Burgelman, R. 2002. Strategy as vector and the coevolutionary lock-in. *Administrative Science Quarterly*, 47: 325–347.
- Burgelman, R., & Grove, A. 2007. Let chaos reign, then reign in chaos—Repeatedly: Managing strategic dynamics for corporate longevity. *Strategic Management Journal*, 28: 965–979.
- Carroll, G., & Harrison, J. 1994. On the historical efficiency of competition between organizational populations. *American Journal of Sociology*, 100: 720–749.

- Chia, R. 1994. The concept of decision: A deconstructive analysis. *Journal of Management Studies*, 31: 781–806.
- Chia, R. 1996. *Organizational analysis as deconstructive practice*. Berlin: de Gruyter.
- Chia, R., & Holt, R. 2009. *Strategy without design: The Efficacy of indirect action*. Cambridge, U.K.: Cambridge University Press.
- Chia, R., & MacKay, B. 2007. Post-processual challenges for the emerging strategy-as-practice perspective: Discovering strategy in the logic of practice. *Human Relations*, 60: 217–242.
- Child, J. 1972. Organizational structure, environment and performance: The role of strategic choice. *Sociology*, 6: 1–22.
- Child, J. 1997. Strategic choice in the analysis of action, structure, organizations and environment: Retrospect and prospect. *Organization Studies*, 18: 43–76.
- Child, J., & Smith, C. 1987. The context and process of organizational transformation: Cadbury limits in its sector. *Journal of Management Studies*, 24: 565–593.
- Christenson, C., & Bower, J. 1996. Customer power, strategic investment, and the failure of leading firms. *Strategic Management Journal*, 17: 197–218.
- De Rond, M., & Thietart, R. A. 2007. Choice, chance and inevitability in strategy. *Strategic Management Journal*, 28: 535–551.
- Denis, J., Lamothe, L., & Langley, A. 2001. The dynamics of collective leadership and strategic change in pluralistic organizations. *Academy of Management Journal*, 44: 809–837.
- Dooley, K., & Van de Ven, A. 1999. Explaining complex organizational dynamics. *Organization Science*, 10: 358–372.
- Eisenhardt, K. 1989. Building theories from case study research. *Academy of Management Review*, 14: 532–550.
- Eisenhardt, K. 2000. Paradox, spirals, ambivalence: The new language of change and pluralism. *Academy of Management Review*, 25: 703–705.
- Finkelstein, S. 2003. *Why smart executives fail*. New York: Portfolio.
- Garud, R., & Van de Ven, A. 2002. Strategic change processes. In A. Pettigrew, H. Thomas, & R. Whittington (Eds.), *Handbook of strategy and management*: 206–231. London: Sage.
- Glaser, B., & Strauss, A. 1967. *Discovering grounded theory*. Chicago: Aldine.
- Hannan, M., & Freeman, J. 1977. The population ecology of organizations. *American Journal of Sociology*, 83: 929–984.
- Hannan, M., & Freeman, J. 1984. Structural inertia and organizational change. *American Sociological Review*, 49: 149–164.
- Hannan, M., & Freeman, J. 1989. *Organizational Ecology*. Cambridge, MA: Harvard University Press.
- Hannan, M., Pólos, L., & Carroll, G. 2003a. The fog of change: Opacity and asperity in organizations. *Administrative Science Quarterly*, 48: 399–432.
- Hannan, M., Pólos, L., & Carroll, G. 2003b. Cascading organizational change. *Organization Science*, 14: 463–482.
- Hrebiniak, L., & Joyce, W. 1985. Organizational adaptation: Strategic choice and environmental determinism. *Administrative Science Quarterly*, 30: 336–349.
- Ingold, T. 2000. *The perception of the environment*. London and New York: Routledge.
- James, W. 1911/1996. *Some problems of philosophy*. Lincoln: University of Nebraska Press.
- Langley, A. 1999. Strategies for theorizing from process data. *Academy of Management Review*, 24: 691–710.
- Langley, A., Smallman, C., Tsoukas, H., & Van de Ven, A. 2009. Academy of Management Journal special research forum call for papers: Process studies of change in organization and management. *Academy of Management News*, June.
- Levinthal, D. 1991. Organizational adaptation and environmental selection: Interrelated processes of change. *Organization Science*, 2: 140–145.
- Levinthal, D. 1997. Adaptation on rugged landscapes. *Management Science*, 43: 934–950.
- Levinthal, D., & March, J. 1993. The myopia of learning. *Strategic Management Journal*, 14: 95–112.
- Levinthal, D., & Posen, H. 2007. Myopia of selection: Does organizational adaptation limit the efficacy of population selection? *Administrative Science Quarterly*, 52: 586–620.
- Levy, D. 1994. Chaos theory and strategy: Theory, application, and managerial implications. *Strategic Management Journal*, 15: 167–178.
- Lincoln, Y., & Guba, E. 1985. *Naturalistic inquiry*. London: Sage.
- Lorenz, E. 1963. Deterministic nonperiodic flow. *Journal of the Atmospheric Sciences*, 20: 130–141.
- Lovas, B., & Ghoshal, S. 2000. Strategy as guided evolution. *Strategic Management Journal*, 21: 875–896.
- March, J. 1991. Exploration and exploitation in organizational learning. *Organization Science*, 2: 71–87.
- Maturana, H., & Varela, F. 1980. *Autopoiesis and cognition: The realisation of the living*. Dordrecht: D. Reidel.

- McKelvey, B. 1997. Quasi-natural organization science. *Organization Science*, 8: 351–381.
- McKelvey, B. 1999. Avoiding complexity catastrophe in coevolutionary pockets: Strategies for rugged landscapes. *Organization Science*, 10: 294–321.
- McKelvey, B. 2001. What is complexity science? It is really order-creation science. *Emergence*, 3(X): 137–157.
- McKelvey, B., & Aldrich, H. 1983. Populations, natural selection, and applied organizational science. *Administrative Science Quarterly*, 28: 101–128.
- McKinley, W., & Scherer, A. 2000. Some unanticipated consequences of organizational restructuring. *Academy of Management Review*, 25: 735–752.
- Mead, G. 2002. *The philosophy of the present*. Amherst, NY: Prometheus Books.
- Merton, R. 1936. The unanticipated consequences of purposive social action. *American Sociological Review*, 1: 894–904.
- Meyer, A., Gaba, V., & Colwell, K. 2005. Organizing far from equilibrium: Nonlinear change in organizational fields. *Organization Science*, 16: 456–473.
- Péli, G. 2009. Fit by founding, fit by adaptation: Reconciling conflicting organization theories with logical formalization. *Academy of Management Review*, 34: 343–360.
- Peng, M. 2003. Institutional transitions and strategic choices. *Academy of Management Journal*, 29: 275–296.
- Pettigrew, A. 1987. Context and action in the transformation of the firm. *Journal of Management Studies*, 24: 649–670.
- Pettigrew, A. 1992. On studying managerial elites. *Strategic Management Journal*, 13: 163–182.
- Pettigrew, A. 1997. What is a processual analysis? *Scandinavian Journal of Management*, 13: 337–348.
- Pettigrew, A., Woodman, R., & Cameron, K. 2001. Studying organizational change and development. *Academy of Management Journal*, 44: 697–713.
- Plowman, D., Baker, L., Beck, T., Kulkarni, M., Solansky, S., & Travis, D. 2007. Radical change accidentally: The emergence and amplification of small change. *Academy of Management Journal*, 50: 515–543.
- Porter, M. 1991. Towards a dynamic theory of strategy. *Strategic Management Journal*, 12: 95–117.
- Rescher, N. 1996. *Process metaphysics*. Albany: State University of New York Press.
- Romanelli, E., & Tushman, M. 1994. Organizational transformation as punctuated equilibrium: An empirical test. *Academy of Management Journal*, 37: 1141–1166.
- Rorty, R. 1980. *Philosophy and the mirror of nature*. Princeton, NJ: Princeton University Press.
- Siggelkow, N. 2001. Change in the presence of fit: The rise, the fall, and the renaissance of Liz Claiborne. *Academy of Management Journal*, 44: 838–857.
- Siggelkow, N. 2002. Evolution towards fit. *Administrative Science Quarterly*, 47: 125–159.
- Siggelkow, N. 2007. Persuasion with case studies. *Academy of Management Journal*, 50: 20–24.
- Siggelkow, N., & Levinthal, D. 2003. Temporarily divide to conquer: Centralized, decentralized, and reintegrated organizational approaches to exploration and adaptation. *Organization Science*, 14: 650–669.
- Spencer-Brown, G. 1969. *Laws of form*. London: Allen & Unwin.
- Strauss, A., & Corbin, J. 1990. *Basics of qualitative research*. Newbury Park, CA: Sage.
- Taleb, N. 2007. *The black swan*. London: Penguin Book.
- Thietart, R., & Forgues, B. 1995. Chaos theory and organizations. *Organization Science*, 6: 19–31.
- Tolstoy, L. 1869/1993. *War and peace*. Hertfordshire, U.K.: Wordsworth.
- Tsoukas, H. 2005. *Complex knowledge: Studies in organisational epistemology*. Oxford, U.K.: Oxford University Press.
- Tsoukas, H. 2010. Practice, strategy making and intentionality: A Heideggerian onto-epistemology for strategy-as-practice. In D. Golsorkhi, L. Rouleau, D. Seidl, & E. Vaara (Eds.), *The Cambridge handbook of strategy as practice*: 47–62. Cambridge, U.K.: Cambridge University Press.
- Tushman, M., & Romanelli, E. 1985. Organizational evolution: A metamorphosis model of convergence and reorientation. In L. L. Cummings & B. M. Staw (Eds.), *Research in organizational behavior*, vol. 7: 171–222. Greenwich, CT: JAI.
- Van de Ven, A. 1992. Suggestions for studying strategy process: A research note. *Strategic Management Journal*, 13: 169–188.
- Van de Ven, A., & Poole, M. 1995. Explaining development and change in organizations. *Academy of Management Review*, 20: 510–540.
- Von Mises, L. 1949. *Human action*. London: William Hodge.
- Weick, K., Sutcliffe, K., & Obstfeld, D. 2005. Organizing

- and the process of sensemaking. *Organization Science*, 16: 409–421.
- Whitehead, A. 1926/1985. *Science and the modern world*. London: Free Association Books.
- Whitehead, A. 1929. *Process and reality*. New York: Macmillan.
- Whittington, R. 1988. Environmental structure and theories of strategic choice. *Journal of Management Studies*, 25: 521–536.
- Wiesenfeld, B., Wurthmann, K., & Hambrick, D. 2008. The stigmatization and devaluation of elites associated with failure: A process model. *Academy of Management Review*, 33: 231–251.
- Yin, R. 1994. *Case study research: Design and methods*. Newbury Park, CA: Sage.



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